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Editor

K Today

Teaching and Learning in the Kindergarten Year

Knowing the children

Good teaching begins with knowing the learners—what they are like developmentally, individually, and culturally. When teachers know what kindergarten children are like *developmentally,* it means they are familiar with the typical social and emotional, physical, cognitive, and language characteristics of children at this age. This knowledge enables teachers to have reasonable expectations of what children in a class are likely capable of. To know children *individually* means to recognize that each child comes with unique needs, interests, abilities, language, temperament, prior experiences, and background knowledge. Teachers who know children *culturally* are sensitive to multiple perspectives and consider those perspectives as they make decisions about children's development and learning (Bredekamp & Copple 1997). To know children, effective teachers:

- Establish positive, personal relationships with each child
- Learn the developmental characteristics of kindergarten children and consider ways to be responsive in setting up the environment, structuring the day, and guiding and assessing children's learning
- Are flexible in adapting the curriculum to meet the needs of each child and the group as a whole
- Learn about the values, traditions, and expectations for behavior of the cultural groups represented in the classroom

For children of kindergarten age, the most important strategy for teachers is to form relationships with them. Because it is through relationships that teachers of young children can guide their learning and behavior.

Building a classroom community

People in a *community* share common interests and activities. Children in kindergarten come to the classroom from many different backgrounds and with a wide range of experiences. By creating a community of learners in the classroom, teachers establish common ground among all the children—ways in which the group can function successfully together. In building community, a teacher bases her decisions on the knowledge that young children learn best in the context of social relationships, and that they need to feel accepted, respected, and confident that their individuality is encouraged. Strategies that promote a sense of community include:

- Welcoming children into the room by labeling cubbies and hooks with their names
- Using class meetings to encourage group discussions, social problem solving, and sharing of ideas and information
- Bringing each child's home culture and language into the shared culture of the classroom
- Developing classroom rules with children
- Planning ways for children to work and play together collaboratively

Creating a community of learners in the classroom has a significant impact on how children work together, how they feel about school, and the relationships that are built with them as individuals and as a group.

Establishing a structure for the classroom

Establishing a *structure* includes creating the physical learning environment and organizing the day to be responsive to children's needs and to make the best use of time. The structure of the classroom has a powerful impact on how children learn.

Kindergarten straddles the worlds of preschool and elementary school. The children are not the same developmentally as first-graders, but they are more "grown up" than preschoolers. Teachers struggle with creating classrooms that are responsive to the developmental needs and potentials of kindergarten children and that support the learning outcomes that prepare children for the curriculum and accountability systems of the upper grades. Kindergarten classrooms look different from preschool or first grade classrooms in their complexity, the levels of responsibility that children assume, their use of symbolic representations, and their reflection of children's growing skills and abilities (Barbour & Seefeldt 1993).

Elements of an effective physical environment

Each kindergarten classroom will be different, first as teachers consider the space, furnishings, and materials available. Later the classroom will be shaped and reshaped as children's new interests and needs emerge. But all classrooms must have certain elements, regardless of their individual resources:

- A space for children to store their work and personal belongings—This space can be cubbies, storage bins, or baskets.
- A place for group meetings—The space should be large enough so children can sit comfortably, either on the floor or on benches, and see one another during conversations.
- A variety of spaces for working—This might mean carefully planned learning centers, a large table, and an open area on the floor. Spaces can be defined with dividers, storage units, and bookshelves. Moveable furnishings allow teachers to create big spaces for larger projects and cozier spaces for a few children to work, as needed.
- Quiet places—Young children need nooks and seating areas where they can get away or work quietly together with a friend or in a small group.
- Places to store materials—Organizing materials logically enables children to find them when needed and return them to their proper place afterward. Creating picture-word labels with the children helps them not only care for the classroom environment but also learn print concepts.
- Places to display children's work respectfully—When children's art and other work are displayed attractively, it conveys the message that what they do is important. Display also invites them to reflect on their work and expand their ideas.

Setting up learning centers

Kindergarten children thrive when they can work independently and cooperatively with a small group of peers. They are eager to practice and apply the skills they are learning, engage in conversations, and make choices about what they can do. Using centers to organize and manage the learning environment is a strategy attuned to who kindergarten children are and how they learn. Learning centers offer children a powerful opportunity to develop independence, risk taking, perseverance, initiative, creativity, reasoning, and problem solving—the "learning to learn" skills.

Learning centers, when set up and used effectively, allow children to develop skills in multiple domains. In this vignette, notice the wide range of skills children are practicing and applying:

> During center time three children decide they want to create their own board game. They go to various learning centers in the room to find the materials they need, and bring them back to a table. Their teacher observes, strategically posing questions to help them with their planning but careful not to interrupt their progress. They use Lego pieces for markers, create their own dice by drawing dots on small empty boxes, and design their game board on poster board. They write the words *Go, Stop here, Bonus,* and *You win,* as well as draw shapes and numbers, in the various spaces. When they do not know how to write a word or number, they refer to a chart or word wall in the room or ask a peer or the teacher. They create a rule book. For a timer, the teacher suggests they use a small empty water bottle and sand. Using a drawing program on the computer, they create play money and print it out. The children persist and return to the task for days until it is complete. When the game is ready, they play again and again and teach others how to play.

This example illustrates how a variety of skills and concepts in multiple learning domains were practiced and applied during purposeful play. (See the box on the next page for more examples of how children practice and use skills and concepts in play.) The three children were allowed to make their own choices. They used the learning centers to locate necessary resources but did not actually work in a particular center. The teacher played an important role in guiding their planning and learning. The activity included skills and concepts in all curriculum areas and enhanced the children's social, emotional, physical, cognitive, and language development. Moreover, problem solving, initiative, persistence, resourcefulness, and creativity had a role.

Learning centers can be used in various ways. During a designated choice time, children might choose their center and what they will do there.

How a child practices and uses skills and concepts in play

Literacy
- Writes for a purpose
- Uses language to communicate
- Understands print concepts
- Writes letters and words
- Reads simple words

Mathematics
- Uses number concepts
- Develops mathematical language
- Makes predictions
- Creates two- and three-dimensional geometric shapes
- Measures time, money

Science
- Uses recycled materials
- Explores physical properties of materials

Social studies
- Develops rules with others and follows them
- Uses geographic thinking and mapping skills to move marker forward, backward
- Learns about money and its use

The arts
- Draws and creates

Technology
- Uses basic computer skills
- Navigates through software program

Some teachers include a "must do" or a required activity in the centers before opening them up for choice. In planning for learning centers, effective teachers:

- Consider space constraints in determining whether all centers will be used on a given day
- Are creative in thinking about new possibilities for locations of centers (for example, a rarely used teacher's desk might be converted into a learning center, using the drawers for storage, the sides for magnetic boards and flannel boards, and the cozy space underneath as an ideal place for children to work or read alone)
- Rotate or change the materials in the area if children are no longer interested or challenged and as the specific learning focus changes
- Make a popular area larger to accommodate more children, and reduce its size as interest wanes

Most kindergarten teachers have some basic learning centers that remain throughout the year. The box on the next page presents a basic list of centers and the types of materials they might include to support children's learning. Not all will be full-fledged centers set off from the rest of the room; some might be "materials hubs" or resource areas, where children go to find a game or set of materials then take these to a work space at a table or on the floor. For example, there might be an art resource area, but art experiences take place throughout the room.

Other learning centers are not so basic and might be set up depending on the available space, materials, and children's interests. Some of these might include centers for cooking, sensory experiences, sand/water play, games, investigating how things work (a "take-apart" center), and project-related activities.

Organizing the day

The daily schedule provides the framework for what teachers will do each day to help children develop and learn. Planning and organizing the day in a thoughtful, intentional way help teachers achieve their goals for children.

Young children feel secure when they know what happens next. They also gain a sense of time and sequence as they move from event to event. A predictable daily schedule helps kindergartners develop independence, responsibility, and a sense of order. Some of the predictable events likely to be a part of any daily schedule include whole-

Centers and the materials they might include	
Learning center	**Examples of materials**
Books	Books of all genres (predictable, informational, poetry, narrative, wordless, decodable), listening center with books on tape or CDs, storytelling and retelling props (flannel boards, puppets, story clothesline)
Writing	Writing paper, envelopes, blank booklets, journals, pencils, pens, markers, word banks, letter stamps, alphabet cards
Mathematics and games	Collections of objects (buttons, stickers, erasers, bottle caps), number cards, interlocking cubes, parquetry blocks, attribute games, graphing mats, sorting trays, deck of cards, board games, dice
Science/discovery	Plants, class pets, nature objects, collections (shells, rocks, leaves, balls, shiny things), tools for investigating (magnifying glasses, magnets, funnels, lenses), science journals, clipboards
Music and movement	Collection of CDs, musical instruments, keyboard with headphones, picture songbooks, song cards (color-coded to correspond with colored instruments), props for movement (scarves, flags, streamers)
Art	Materials to paint and draw on (newsprint, butcher paper, finger paint paper, foil), painting and drawing implements (markers, crayons, paints, pens, pencils, charcoal, chalk), materials for molding and sculpting (clay, playdough, tools), cutting and pasting materials (scissors, paste, glue, collage materials) and materials for constructing (foam pieces, wood scraps, wire, pipe cleaners, recyclable materials), art books, photographs, posters
Dramatic play	Props and dress-up clothes, homelike materials reflecting children's culture (kitchen furniture, dolls, phone, message board, empty food containers), open-ended materials (large pieces of fabric, plastic tubing, cardboard boxes), literacy materials (magazines, books, pads of paper, cookbooks, junk mail), mathematics and science materials (calculators, kitchen and bathroom scales, calendars, cash registers, measuring cups and spoons, store coupons)
Blocks	Unit blocks, hollow blocks, props (people figures, vehicles, hats, animal figures), open-ended materials (cardboard tubes, cardboard panels, PVC pipes, vinyl rain gutters), literacy materials (writing tools and paper, signs, books about bridges and buildings)
Technology	Computers, printers, optional technology (Web cam, digital camera, scanners, computer microscopes)

group times, small-group times, learning center time, and outdoor play. Routine events such as arrival, departure, rest, transitions between activities, and meals or snacks must also be included in the schedule. When developing a schedule, a teacher often must work around factors outside of her control. Besides beginning and ending times, these factors might include lunch; scheduled time for resource teachers; and special events such as field trips, visiting experts, school-wide events, and unexpected happenings.

Although a daily schedule helps children make sense of their day, it is not intended to be rigidly followed. If children are highly engaged in an activity, extending it for a while is a reasonable decision. Effective teachers also take cues from the children to gauge whether an activity is not working, and they make adjustments accordingly. In some districts and schools, teachers are required to adhere to a schedule specifying the times for each part of the curriculum. Sometimes activities and even what the teachers are to say are tightly scripted.

When is not the only question teachers must address in organizing the day. They must also do important planning for *what* will happen in their classrooms. Effective kindergarten teachers reflect on what they know about the children and make thoughtful decisions about the activities and experiences they will offer to help these children progress. Teachers make plans for meeting the needs of individual children, small groups of children, and the class as a whole. They also consider how they are going to address the numerous learning outcomes in the short time they have with children. An efficient and meaningful way of doing this is through integrating curriculum in projects/studies and units/themes, as discussed later in this chapter.

Guiding children's learning

Guiding children's learning takes place all day, every day, across all six dimensions of a teacher's work. While having a well-stocked, thoughtfully organized, and attractive classroom environment enhances the kindergarten program, it is only the beginning. The effective teacher motivates children, builds on their prior knowledge and strengths, and supports their learning using a variety of strategies to increase their skills, knowledge, and understandings.

In order to guide children's learning effectively, kindergarten teachers must be knowledgeable in three specific areas. First, they must understand the content of the various curriculum domains and the learning paths kindergartners typically follow in developing the relevant knowledge, skills, and understanding. Second, kindergarten teachers must know their specific children—what they are like as a group, as well as their individual needs, interests, learning styles, and cultures. And third, teachers must understand which methods work best given the characteristics of kindergarten children and the content to be learned. Knowledge in these three areas provides teachers with a mental roadmap to guide their planning, teacher-child interactions, and assessing.

Teacher-child interactions

Teacher-child conversations play an important role in shaping what children learn. It is through these conversations that the teacher *scaffolds* learning. This concept of effective teaching comes from the work of Lev Vygotsky (1978). Just as a carpenter uses a physical scaffold to work on a part of a building that is otherwise out of reach, the teacher provides varying levels of support to help children stretch to learn new concepts, skills, and understandings that are challenging but achievable (Copple and Bredekamp 2006). As children work to master a new skill or acquire a new understanding, the teacher gradually pulls back on the level of support (scaffolding) she offers. The box on the next page describes the varying levels of support one teacher offers after the classroom hamster goes missing.

This example incorporates several aspects of effective scaffolding of children's learning: The teacher motivates the children by seizing an opportunity to write for a purpose; she sets the context for learning and offers children multiple ways to learn, practice, and apply skills. She taps

Scaffolding in action

At their morning meeting, Ms. Ankersen tells the children that their hamster, Sparky, has escaped overnight. She asks, "What can we do to find Sparky?"

High level of teacher support ← Scaffolding → Low level of teacher support			
I do . . . you watch	**I do . . . you help**	**You do . . . I help**	**You do . . . I watch**
In morning meeting, the children and Ms. Ankersen discuss the problem and make plans for how to solve it. As she writes the children's ideas on a chart, she mentions using periods to let people know when to stop reading. She also talks about using capital letters to start a new sentence. She says that names are very special, so Sparky's name will begin with a capital letter, too.	The next day, the children dictate a "Missing Hamster" story to be read by the principal over the intercom during morning messages. Ms. Ankersen reminds the children that the periods and capital letters will help the principal know when one sentence ends and a new one begins. As she records their thoughts, she calls on various children to use the marker to make the period or the capital letter.	For the day's entry into their journals, the children write about the missing hamster. The children are at varying stages in their writing development. Ms. Ankersen makes occasional comments on their use of periods and capital letters and offers suggestions as she talks to them about their entries. To help them in spelling words, she draws their attention to the word walls, their own personal word banks, and other resources.	The children create signs at the writing center to post around the school about the missing hamster, one solution to the problem suggested at the morning meeting. Knowing that their messages will be read by others, they seek to write in a way that will be understood. They refer to the sign on Sparky's cage to make sure their spelling is correct and read their messages to Ms. Ankersen for affirmation.

into children's prior knowledge; all the children in the class are familiar with Sparky and help take care of him. These children also have participated in dictating stories, morning messages, group meetings, and journal writing as part of their daily activities. She demonstrates her knowledge of these kindergarten children; she knows where various children are in their writing development and the kind of support each is likely to need. She understands the content to be taught; she knows the developmental stages of writing and the conventions of print. Keeping her learning goals in mind, the teacher is intentional in guiding children's learning about print and in choosing which instructional strategies—conversations, discussions, modeling, or specific feedback—to use at what point. She observes children as they write and helps them reflect on their writing. She offers a safe, supportive environment to take risks.

As noted in earlier chapters, today's kindergartners come from a range of backgrounds, have differing needs, and because of age-eligibility differences, range in age from 4½ to 6 years old or more. Kindergarten teachers are most successful in supporting children's development and learning when they use a range of approaches to address the unique needs of each child in the classroom. No one approach works for all children and all occasions.

Using a variety of instructional strategies

In building a table or repairing a roof, no carpenter tries to do each part of the work with a single tool. Like competent carpenters, good teachers have many tools, or *instructional strategies,* in their tool belts. The best strategy to use at any given moment depends on the learning goal, the specific situation, and the individual child.

The teacher chooses the strategy that will be most useful in the particular situation. Often she tries one strategy, sees that it does not work, and tries something else. What is important is to have a variety of strategies ready and to remain flexible and observant. Here are several of the many strategies teachers need to have at their disposal to do their jobs well (Copple & Bredekamp 2006):

Encourage. Offer comments or nonverbal actions that promote children's persistence and effort ("That wasn't easy, but you kept trying different things") rather than giving evaluative praise ("Good job").

Give specific feedback. Offer specific rather than general comment on the child's performance ("That's a *d,* Lily, not a *b*—it looks a lot like a *b* but it's turned the other way, see?").

Model. Display for children a skill or desirable way of behaving (whispering when you want the children to lower their own voices; modeling cooperation and problem solving by saying, "You both want to use the computer, so let's think about how you could use it together").

Create or add challenge. Generate a problem or add difficulty to a task so that it is just beyond what children already have mastered (once a child counts up to five items accurately, begin engaging him in counting sets of six to eight).

Give a cue, hint, or other assistance. Help children to work "on the edge" of their current competence (such as initially labeling cubbies with both picture and print labels, with the pictures to be removed later).

Provide information. Directly give children facts ("Birds make nests like this one to live in"), verbal labels ("This is a cylinder"), and other information.

Give directions. Provide specific instructions for children's action or behavior ("Move the mouse to this icon and click on it"; "Pour very slowly so we don't lose any of the liquid").

Teachers can and do use these strategies in any context. For instance, when children are engaging in an open-ended activity such as investigating at the water table, the teacher might choose to model a technique, provide information, or create challenges. Likewise, in a planned small or large group, the teacher might engage the children in open-ended thinking and use any of the instructional strategies in her repertoire.

Using a variety of learning contexts

Each part of the day offers opportunities to guide children's learning. Key learning contexts are whole group, small group, learning centers, and daily routines.

Whole group. Also called large group, group meeting, or circle time, whole group is ideal for class discussions, making plans, and sharing work. At whole-group gatherings during the day, opportunities are provided for children to learn and practice a variety of social and academic skills, such as speaking to a group about their experiences, listening to their classmates and responding appropriately with questions or comments, working cooperatively, and using and processing new information.

Small group. In a small-group setting, teachers can give children more focused attention than in a whole group. Children also have the opportunity to engage in conversations with peers and solve problems collaboratively. Teachers often use this format for planned, focused experiences in which they might introduce a new skill or concept or reinforce skills and concepts the children have recently encountered. Small-group experiences tend to take place during learning center time. Some children work with one adult in a small group while the others work more or less independently with the other adult available to them. Small groups vary in size, usually ranging from four to six children and might be formed based on a common interest or on a need as determined by assessment information.

What is important is to have a variety of strategies ready and to remain flexible and observant.

Learning centers. For each center, the teacher carefully selects materials to support educational goals. The teacher's role is to observe what children are doing and respond when he sees opportunities to extend their exploration,

Play's benefits

Communicating to families and administrators

It is especially difficult in a linear culture to communicate the power of play as a nonlinear, dynamic, powerful network of relationships to learning. It is much easier for some adults to check off a list of boxes on standardized tests.

Parents and policy makers need labels for playful-looking activities that they can understand as significant, in their terms. It may be politic to advertise continuously what children *are* learning when they play and to interpret children's play, without calling it play. Alternative language such as "integrated learning experiences," "learning activities," "active study projects," "science experiments," "center time," "activity periods," and "work periods" may help. Parents and policy makers may also need more information about the power of play and "active learning" in early childhood. Below are some suggested responses when communicating with parents about their children's learning.

Q. What is my child learning in school?

Your child is having important experiences with the sciences, the social sciences, mathematics, literacy, and the arts. Many of the activities look like play and feel like play because he is an active learner.

Q. If children play, then how will you cover the curriculum?

Play is one powerful way in which children learn. Research tells us that play helps youngsters to improve their thinking skills, social skills, language skills, and problem-solving skills. We plan events in school that integrate the full range of school learning, and include play as well as other ways that children learn. For example, our curriculum emphasizes playful activities in the sciences and the social sciences. Each part of the program builds in literacy and number skills that make sense to the children because they need to draw, read, write, and measure in order to solve real problems that have meaning to them. We usually do much more than the minimal state curriculum expectations.

Q. How are you preparing my child for the rigors of the teacher next year?

Your child has educational choices that can both challenge her and offer her a chance to feel successful in school. When she feels successful, she tries harder. It is easier for her to learn more concepts when she feels confident. We work toward making this the richest year possible, knowing that this is the best way to prepare her for the future.

Q. How do you keep control of the class if the children have choices?

The choices are educationally important. Different children may be doing different things at different times and have equivalent experiences in which they can feel successful. When they make a choice, they feel more responsible for their activity and work harder in playful ways.

Source: Adapted from D.P. Fromberg, *Play and Meaning in Early Childhood Education* (Boston: Allyn & Bacon, 2002), 131–2. Copyright © 2002 Pearson Education. By permission of the publisher. **Doris Pronin Fromberg** is director of early childhood teacher education at Hofstra University.

play, and problem solving. The teacher also serves as a resource person to help children locate what they need to accomplish tasks. Sometimes he proactively engages children, and might even become a co-player with them to promote richer play and learning.

Daily routines. Other opportunities for learning occur throughout the day during daily routines such as arrival, departure, meals and snacks, and transitions. Children learn skills and concepts at each of these times, as they sing a song focusing on phonemic awareness during a transition, make comparisons of the number of boys and girls present during circle time, or figure out how many crackers will be needed in order for each person